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Nielson,  
D.

Impacts By Big Game on the Income and  
Operating Expenses of Private landowners  
in the Area of Utah's Deer Herd Unit # 19

IMPACTS BY BIG GAME ON THE INCOME AND OPERATING EXPENSES  
OF PRIVATE LANDOWNERS IN THE AREA OF UTAH'S  
DEER HERD UNIT # 19

U.S.U. Contact  
Darwin Nielson

F.S. Contact  
Fred Wagstaff

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IMPACTS BY BIG-GAME ANIMALS ON THE INCOME OF PRIVATE LANDOWNERS  
IN THE AREA OF UTAH DEER HERD UNIT #19

Purpose and Objectives of Research Project

The purpose of this project is to study the impact on private landowners of migrating big-game animals and to assess the impact on income and operating expenses of private landowners. The results of this study will allow better estimates to be made of benefits, costs, and economic impacts of proposed management actions which change big-game animal populations.

General Objective

Determine the economic impacts on private landowners associated with big-game animal management in the area. The impact could vary from the positive aspects of fee hunting to direct competition for forage with domestic livestock.

Objective One

Determine time of use by migrating big-game animals on each affected landowner. If available, data will be collected to quantify the intensity of competition with other animals and/or the extent of damage caused to the landowner.

Objective Two

Develop procedures for distribution of benefits due to the positive impacts attributed to big-game animals among those landowners sharing in the production of those animals. In many cases, several landowners are

impacted in the year-long production of big-game animals, but only a few landowners are able to benefit from the economic value generated in selling hunting leases or permits.

### Economics of Game and Fish Resources

How can economics be brought to bear on game and fish problems? Some definitions of the economic elements involved are needed.

Economists have been described formally as "professional social scientists who study man's behavior in producing, exchanging and consuming material goods and services." In practice, economists have broadened their interests and competence to include consideration of a large number of nonmonetary elements, particularly those related to social goods and services. A case in point is the concern about wildlife resources and the quality of the environment.

The overall input of economics into fish and game management can be subdivided into three critical elements. These are:

1. Providing a framework for understanding the various factors that affect the distribution of these resources and their relative importance in time and place;
2. Providing a formal approach to an evaluation of alternative management choices; and,
3. Assisting in the implementation of policy objective (Nobe 1971).

### Supply and Costs

Game and fish managers are well-trained to consider the supply aspect of wildlife. In regard to this, two potential sources must be considered: the public and the private sectors. Private sources of supply are given major consideration in the eastern United States. In

the West, however, where a high percentage of the land is public domain, there is a tendency to underestimate the importance of private input. Shooting preserves, businesses catering to hunters and fishermen, and private hunting and fishing clubs are coming onto the scene in greatly increasing numbers each year throughout the United States.

The increase in the complexity of the supply side will make the job of game and fish management increasingly difficult. In the past, much of the cost of wildlife management has been direct costs. More and more indirect cost elements will emerge as the intermixed pattern of public and private supply elements develop (Radosevich and Nobe 1969).

#### Demand and Benefits

Consideration of the demand for game and fish must be done in the context of rapidly changing (growing) recreation demand. Until recently, when the total demand began to reach the total supply, society found it feasible to pay for the recreation supply base through general taxation and surtaxes on sporting goods. There is nothing wrong with this approach from the financial side, but it leads to the major misconception by the U. S. consumer that access to hunting and fishing areas is not only a privilege but also a right to be provided free of charge to them.

In most cases, hunters and fishermen are the direct beneficiaries of wildlife resources and have had to bear the major cost of public management. It must be pointed out, however, that with the increasing demand on all types of recreation, other indirect users of game and fish are increasing in numbers. These are persons having an interest in "quality" wildlife resources in the overall recreation environment.

There is some argument that wildlife resources should be subjected to the same rigid economic analysis in the future that is now afforded to flood control, electric power, water supplies, and other resource development and management purposes. Game and fish managers should deal with wildlife on a competitive basis in planning for multipurpose development, use, and management. Only by reflecting on all public interests can these resources be elevated to the role of a full partner in the sharply competitive game of stretching scarce natural resources to fulfill rapidly expanding and competitive demands.

### Public Resources--Private Land

#### Wildlife Laws and the Landowner

The private landowner in the United States occupies a key position as custodian of wildlife and purveyor of recreational opportunities for sportsmen. To a degree, this has long been recognized; for example, see the following excerpts from Leopold (1930):

Compensation to the landowner in some form or another is the only workable system for producing game on expensive private farm land.

Only the landholder can practice management efficiently because he is the only person who resides on the land and has complete authority over it. All others are absentees. Absentees can provide the essentials: protection, cover, water, and food, but only with the landholder's cooperation, and at a higher cost.

With rare exceptions, the landholder is not yet practicing management. There are three ways to induce him to do so:

1. Buy him out, and become the landowner.
2. Compensate him directly or indirectly for producing a game crop and for the privilege of harvesting it.
3. Cede him the title to the game, so that he will own it and can buy and sell it just as he owns, buys, and sells his poultry.

The first way is feasible on cheap lands, but prohibitive elsewhere.

The second is feasible anywhere.

The third way is the English system and incompatible with American tradition and thought.

Recognize the landowner as the custodian in public game on all other land, protect him from the irresponsible shooter, and compensate him for putting his land in productive condition. Compensate him either publicly or privately, with either cash, service, or protection, for the use of his land and for his labor, on condition that he preserves the game seed and otherwise safeguards the public interest. In short, make game management a partnership enterprise to which the landholder, the sportsman, and the public each contributes appropriate services, and from which each derives appropriate rewards.

These excerpts from the American Game Policy seem to be as true now as they were forty years ago. It is disappointing that so little has been done to implement this policy. Nevertheless, many states, through their legislatures and game and fish commissions, have enacted laws and regulations to help the landowner with problems concerning game, fish, and/or sportsmen. The following are a few things that are currently being done to encourage good landowner/sportsman relationships.

1. Controlling Trespass--Trespass occurs most often for hunting. Because of this, the state laws regulating trespass are usually included in the game and fish laws. These laws take many forms such as some states require written permission from the landowner to legally hunt and fish on his land. Other states have specific laws relating to the posting of land. Many states also have a "safety zone" provision which prohibits shooting within a specified distance of occupied buildings and roads.
2. Owner Liability Protection--A typical law is one that provides the landowner freedom from liability claims by sportsmen who were using

special privileges to landowners such as free hunting or special application considerations.

4. Legal Limitation on Number of Hunters--Many landowners are willing to welcome a few hunters on their land, but they become concerned when there are too many. A consequence in some states has been a legal limitation of number of hunters, or limited numbers of permits issued for a given area, at any one time.
5. Crop Damage Payments or Control--This can come in many forms. Some states, after an investigation, will pay the farmer for the loss he has suffered from protected game animals. Others provide only preventive measures, such as fencing or transplanting the offending individual animals.
6. Encouraging Fish and Wildlife Management--Some of these objectives are achieved through provisions for habitat improvements on private lands. Most states also have laws encouraging private enterprise in such ventures as game farms, fish hatcheries, and shooting preserves through the issuing of licenses or permits.
7. Income to the Landowner from His Fish or Wildlife--Some states actively assist the landowner in realizing financial gain from the presence of fish and wildlife on his property. Two arrangements that have been widely used will be discussed later. One arrangement in Wyoming is where pronghorn antelope hunting is allowed on a permit basis. The permit includes a coupon which the hunter gives to the landowner on whose land he is hunting. The landowner can then deliver the coupons he has collected to the state game and fish department for payment. In this way, he is paid for being a custodian of the pronghorns and for permitting the hunters on his land.

landowner can then deliver the coupons he has collected to the state game and fish department for payment. In this way, he is paid for being a custodian of the pronghorns and for permitting the hunters on his land.

These efforts and many others are among those which the state fish and game departments have tried to encourage better relationships between the sportsman and the landowner. There are some arrangements being used that are not directly important to the landowner. These are educational programs that improve hunter behavior or gun safety, requirements that hunters be identifiable in the field through the wearing of readily visible license tags and special efforts to check law violators quickly and efficiently. It seems clear that despite all the efforts which are being made to win their favor, landowners often are unwilling and unappreciated partners in wildlife programs. Much more needs to be done to persuade them that it is in their best interest, as well as the sportsmen's and game agencies's, to arrange an orderly harvest of game and fish from the landowner's property. (Swanson 1971).

#### Wildlife Enterprises on Private Land

Private land can and, in the near future, must provide more wildlife for recreation if the wildlife use demands of the public are to be met.

National authorities acknowledge that outdoor recreation needs cannot be met by even the combined efforts of local, state, and federal governments. It is not economically feasible for states to purchase enough land to handle increasing hunting and fishing pressures. In addition, much public land is incapable of high wildlife production.

Three needs are evident: (1) more places to hunt and fish; (2) an increase in yields of wildlife crops; and (3) maximum harvest of annual increases of game and fish populations (Dasmann 1981).

Encouragement for landowners to provide wildlife must be more than a simple pat on the back. The farmer or rancher cannot stay in business giving away his resources or the produce of his land. If wildlife are to compete for space with hay, corn, and cows, then an appropriate economic return must be provided. "It is inconsistent and illogical to continue spending the major part of our money and efforts in wildlife management programs on public lands when nationwide, 80 percent of the game is harvested on private land" (Teague 1971).

Under some circumstances, wildlife enterprises on private land can be of value to the landowner, the sportsman, the nonconsumptive user, the state resource agency, and the local economy. Here are a few values to each of those groups of individuals.

The landowner:

- less vandalism, property damage, and better control of hunters
- retention of land in private ownership, thus, on the tax roles
- fuller use of all land, capital, and labor resources
- direct financial gain

The resource agency:

- improved overall wildlife habitat
- landowner understanding and support of state management programs
- more license sales and more federal funds
- relief of hunter congestion on state management areas and public lands

The sportsman (private land user):

- quality hunting conditions (a result of managed habitat and high game populations)
- reduced travel distance and an increased amount of game harvested
- more total day of hunting (licensed preserves have several more months' hunting than regular state seasons)

The sportsman (public land user):

- less competition for space on public lands
- increased wildlife populations on private lands migrating to public areas for harvest

The nonconsumer (e.g., photographers and bird watchers):

- historically, sportsmen's dollars have provided game and non-game species for this group to enjoy. Many refuges, habitat improvement projects, and other programs to enhance wildlife populations have been financed by hunters and fishermen. Many game management areas are available on a multiple-use basis for other recreationists to enjoy.

The local economy and recreation industry:

- every dollar spent on wildlife is doubled or more by the economic activity generated.
- tax revenues are increased (Teague 1971).

"Fee" or "paid" hunting means direct reimbursement to the landowner for the right to hunt on his land and is a growing practice in almost all parts of the U. S. Leopold (1956) summarized the situation very well: "when free hunting is no longer available, sportsmen will pay for it, and ranchers will provide it . . . . We can ignore it, fight it, or work with it. My opinion is that we will get farther if we work with it."

### The Shooting Preserve Concept

One of the most critical needs in the times ahead is quality outdoor recreation, especially near the more populated areas. Certain types of commercial recreation enterprises may be the answer. One of

the greatest shortages in future recreation will be the lack of good places to hunt and fish near metropolitan areas. Private shooting clubs and preserves may be the answer. It seems we are headed in that direction.

An example of a shooting preserve is simply a privately owned or leased piece of land that releases pen-reared birds for "hunting" over a period of five or six months.

The shooting preserve concept was slow getting started. Traditionally, wild game was relatively plentiful and there was plenty to hunt and many places to hunt. But as our nation has grown, wildlife habitat has shrunk and our urban areas expanded. There is less game and fewer places to hunt, and the need for shooting preserves became more apparent.

At first, hunters were suspicious of this new concept (many still are). Game have always belonged to everyone, and there seemed to be something un-American about putting a price tag on wildlife. Many hunters condemned this practice as a return to the "European system" where the management systems have evolved to a point where they manage individual animals instead of species.

One of the biggest problems in the early days of shooting preserves was the lack of suitable legislation. Good shooting preserve legislation assures customers "quality" sport, protects the operator and gives him a fair profit, and protects the natural wildlife resources from exploitation.

A major breakthrough came in 1954 when a model statute for the establishment and operation of shooting preserves was developed by the Sporting Arms and Ammunition Manufacturers' Institute (Kozicky and

Madison 1966). This has been the major guideline for state legislation throughout the country.

Kozicky and Madison (1971) explain several factors which sparked the growth of the shooting preserve industry.

1. An expanding human population, with shorter work weeks, higher pay scales, and more time and money for hunting, as well as more men of retirement age with time and money to spend on hunting.
2. The mechanization of game propagation, the improvement and control of quality game feeds, and development of effective medications for various diseases have all permitted game to be produced at a lower cost per bird in spite of a rise in our economy.
3. Increasing restrictions of public hunting opportunities by game agencies in an effort to fit the harvest to the game supply have resulted in reduced hunting seasons and bag limits.
4. A growing number of people and industries have wanted to do something about increasing the chances to enjoy a day in the field with dog and gun.

#### Both Public and Private Shooting Areas Needed

After a certain point, there is little that state game departments can do to provide more public hunting. I already have covered that they can purchase some land, they can research game needs, and set regulations that provide equal chances for the public to harvest game. But in practice, little can be done to provide more places to hunt. The hunting segment of our population, it seems, will always be dependent on the private landowner to provide most of his sport.

#### Public and Private Cooperation Essential

To sum it up, privately operated shooting preserves seem to be the best hope for maintaining quality hunting near urban areas where access to private lands is highly restricted. However, preserve operators need encouragement and technical help; and, if the state game agency is the official arbiter of hunting quality that it should be, it is the logical

source of such help. But, of course, the operator must be willing to accept the help and the state game departments must be willing to give it.

### Landowners, Sportsmen, and Access

Access to land for hunting purposes is a central issue in wildlife recreation. Without that access, there is no opportunity for wildlife recreation activities.

The quality of the environment influences the fate of our wildlife species as well as the level of enjoyment of the out-of-doors experience of the public. Orderly access arrangements also influence individual satisfaction with recreation (Lindzey and Wingard 1971) and must be a consideration in the overall management picture.

### Wildlife is a Public Resource

Wildlife is unique among natural resources: the public owns it, the government administers it, private landowners help produce it, business benefits from it, the public uses it, and many misunderstand its place, uses, and values.

State and federal laws, as well as the courts, have upheld public ownership of wildlife. Simultaneously, the laws and courts have clearly defined private property rights, including the right to post land against public trespass. In this situation, sportsmen are faced with a legal paradox. It is one of our most urgent needs to bridge the gap between public ownership of wildlife and the landowner's right to control access across his land and, therefore, the use of the wildlife resources.

### Changing Land Uses

New technology and population pressures are accelerating changes in the use and ownership of land.

Many new developments and changes in land use are wasteful and harmful to wildlife. The extent to which these practices continue will determine the environmental aspect of wildlife's future. Ecological thought must be included in land-use planning for environmental losses to be reduced or minimized.

Despite past losses, a large amount of productive wildlife habitat remains potentially available. With wise and progressive management, these areas can be utilized for the good of wildlife.

### The Situation Today

As stated before, there seems to be an exponential increase in the amount of land that is now closed to free hunting.

The practice of leasing hunting rights to individuals or a club gains more land each year. Texas is the state best known for the widely established practice of landowners charging a fee for big-game hunting on their lands. In recent years, such fees have become quite substantial, and many landowners earn a large percentage of their income from big-game hunting rights.

### Free Public Hunting and How It Influences the Conservation of Public Wildlife Resources

Swenson (1983) recently presented the opinion that encouraging the leasing of hunting rights may have some negative social and political ramifications to wildlife conservation.

He states that free public hunting promotes public participation in wildlife policy and management. The opportunity for the general public

to hunt on private land varies around the world as well as within North America. Excluding the private land which is closed to all hunting, access to private lands by the general public varies along a continuum from areas where anyone can receive free permission to hunt. Swenson believes that "a high level of public participation in the use (both consumptive and nonconsumptive) of the wildlife resource is related to . . . widespread free access to private lands."

Swenson suggests that when fee hunting replaces free hunting, public participation in hunting and their general interest in wildlife will decline and states a study from Norway to prove his point.

Historically, hunting was a public right in Norway and the public was allowed to hunt on private land without permission, although a few rights were reserved for landowners. As a result of this, small game hunting and salmon fishing were the most important forms of recreation among the factory workers studied in 1845 by le Play. This right was lost in 1899, when a comprehensive hunting law transferred the right to hunt and trap on private land (except for predators) solely to landowners. Landowners were encouraged to lease their hunting rights. This legislation was designed to stimulate the agricultural economy and help stop the rapid emigration from rural areas. The effects of the initiation of fee hunting have been dramatic. Recent studies of recreation in Norway mention hunting and fishing only briefly or not at all. In 1970 only about 4% of legal-aged Norwegians purchased hunting licenses.

Apparently, participation in hunting by the general public also is declining in Texas, where the prices of hunting leases are forcing some hunters out of their sport and promoting some inequality in the distribution of hunting opportunity.

#### Long-Term Productivity of Wildlife Habitat

There seems to be considerable disagreement between wildlife professionals and Noonan and Zagata (1982) on the point of idle land.

It is tempting to theorize that wildlife, given a sufficient economic value, could inspire landowners to manage for the long-term stability of this economic commodity. In this instance, the landowners would primarily be members of the agricultural industry, both private and corporate. However, the American agricultural industry is presently overexploiting its own resource base, the soil (Brown 1981). If this industry is not properly managing its base for continued productivity, can we expect it to be properly managed for economic values of wildlife in the long term? Swenson (1983) states the following:

One of the weaknesses of the free enterprise system is the temptation to sacrifice long-term economic productivity for short-term economic gain. The maximization of short-term economic gain is the major reason why market hunting, America's first experiment in the economic exploitation of wildlife by the free enterprise system, failed to maintain the long-term productivity of wildlife.

Noonan and Zagata (1982) quoted Burger and Teer (1981) in stating that the greatest incentive for producing wildlife on private lands in Texas is its economic value. Burger and Teer did question, however, whether that approach had universal appeal and whether it actually stimulated habitat development and management. In fact, Burger and Teer concluded that, with the exception of many waterfowl hunting areas, leased areas were not usually managed for wildlife. Also, it appears that economic exploitation of wildlife in some areas has resulted in management for exotic species at the expense of native species and their habitats, especially nongame species.

### Case Study Discussion

#### Hunting Clubs

##### Costs and Benefits

The cost of belonging to a hunting club in Unit 19 is between \$100

and \$2,000 initially, and between \$50 and \$275 per year. The profit margin of the club responds to the amount they have to pay to lease land in any particular year. Deer Herd Management Unit 19 is unique in the fact that the vast majority of the lower elevation hunting area is controlled by a club that is a nonprofit corporation. This raises special problems in that the club is not able to financially help those landowners receiving damage from wildlife even though the club controls most of the land where the damage occurs.

The benefits to the sportsman in pursuit of recreational opportunities is great enough to warrant almost yearly fee increases in the area. Hunter success on lands controlled by hunting clubs in the unit is extremely high when compared to the statewide hunter success.

#### Damage Responsibility

As stated, the hunting club that controls most of the land where damage occurs is nonprofit and unable to provide financial assistance to those landowners receiving damage. When asked who should be responsible for the damage, this club stated that hunting clubs that show an economic profit should be responsible for degradation occurring on land they lease. They suggested that the Division of Wildlife Resources should pay the cost of damage when the land is not leased to a club.

The hunting clubs that lease the land that is higher in elevation and, thus, do not receive a significant amount of damage suggest the clubs that control the land where the damage occurs should be the ones to supply financial help to affected landowners.

Here lies one of the major problems in the unit. The hunting clubs receive the benefits from the wildlife yet are unable or unwilling to share in the costs.

### Access

Access onto land controlled by hunting clubs in the area usually falls into either of two categories: (1) limited membership per club, or (2) some sort of reservation system to limit hunters on the area at any particular time.

### Herd Management

The consensus among the hunting clubs is that there needs to be at least a few small areas managed specifically for trophy class male deer. Some of the clubs already manage a small portion of their leased land for trophy type animals and report some success.

The clubs in the area all agreed that at certain times doe hunts are necessary. There was some discrepancy as to when those times were. The clubs that control the land that is lower in elevation were more understanding and supportive of doe hunts. Their land is where the damage occurs, and they go as far as to encourage their members to pick up a doe permit when they are available.

The clubs that do not have any deer wintering on land controlled by them were not as understanding. Since they are not adversely affected by large herd sizes, they would like to see the herds larger and little, if any, doe hunting.

### Habitat Manipulation

None of the clubs are doing habitat manipulation for the benefit of big game in the area. The basic reasons stated for this were: (1) finances were not available, (2) it is not cost-effective, and (3) it is not needed. However, a few did state that they would consider doing some if and when it becomes financially beneficial to them.

## Concerns

The most pressing concern of the hunting clubs is to acquire and maintain the lease on lands suitable in habitat and location for the hunting of big game animals. Keeping their members happy and Fish and Game management policies for big game populations in the future are two things that are often given consideration. A continually growing problem for the hunting clubs, especially the larger ones, is that they are slowly making enemies and building a poor image with the area landowners. If this trend is not curtailed, the financial demise of these clubs is imminent. The landowners will go back to selling their own trespass permits. Transformation of the public's thinking to accept hunting clubs is also a point of consideration. They must, to some degree, change the traditional thinking of the American sportsman for him to completely accept the concept of fee hunting.

## Goals and Objectives of the Hunting Clubs

The goals and objectives of the hunting clubs vary little in respect to what they are trying to provide their members. The defined goals of a number of the area's hunting clubs are as follows:

1. Provide quality hunting at a reasonable price.
2. Establish and maintain long-run cooperation with the Division of Wildlife Resources and the landowners.
3. To improve landowner cooperation in the area of big game management.
4. Improve the image of the hunter in the eyes of the landowner.
5. To show the public that hunting clubs have workable and achievable goals and that "hunting club" need not be considered a dirty word.

6. To make an economic profit except for those clubs designated as nonprofit.

#### Landowners With Large Landholdings

Of the landowners with large landholdings, 70 percent lease the right to hunt big game on their property either through a hunting club or private trespass fees. The vast majority of those who do lease stated that they lease their land more as a public service than for the monetary reward involved. Those who do not lease almost without exception have leased in the past and have encountered problems with the hunting clubs that they could not work out. The biggest single complaint of this type was that the hunting clubs make an agreement to let only so many people on a certain section of land at a particular time and break that agreement by flooding the hunters onto the productive land or areas where the hunter success is the highest.

#### Cost of Hunting

The cost, to the hunter, of hunting the larger tracts of land is considerably more than for the smaller ranches that are located at lower elevations. The cost runs from 24 to 300 percent higher on the larger ranches with prices ranging from \$75 to \$500 per season for just the trespass rights. More guided hunts are starting in the area, and the cost of a guided hunt is running just under the national average of \$122 per day. The cost of hunting in Management Unit 19 has shown a steady increase in the past thirty-five years and will continue to increase as the demand for private land hunting increases.

#### Damage Responsibility

Of the ranchers with large landholdings, 50 percent stated that it

was entirely up to the rancher to protect his own hay from wildlife depredation. Although some of them did suggest that it is easier for them because most of the deer and elk have moved below their land for the most severe part of the winter. Some even suggested that damage is more intense on their stackyards when the winter is not quite so severe as the winter of 1983-84. The ranchers who stated that it was their responsibility were almost without exception the ones who had big-game-proof stackyards.

The other 50 percent, although not receiving any damage to stackyards (some claimed some damage to alfalfa fields), suggested that any private citizen who receives economic harm from big game animals should receive full compensation for that damage.

#### Herd Management

Surprisingly, the ranchers with the larger landholdings were basically unconcerned with the management of the big game herds. In fact, one of the largest landowners in the area just decided not to lease the hunting rights to a club again and will allow no hunting on the land. The underlying reason for this attitude is that the largest ranches have producing oil wells on them and the monetary reward of a wildlife enterprise when compared to oil is insignificant.

Unless there are far too many big game animals on summer range, it is very difficult to see the impact by those animals. Only when the impact is easily seen will the landowner complain about herd sizes.

#### Concerns

The single most prevalent concern of ranchers with both large and small landholdings is trespassers. All of the landowners interviewed

complained about the trespass situation in the area. The suggestions that were echoed again and again were either for stricter laws or more personnel to enforce existing laws.

Many reasons were given to explain why trespass in Deer Herd Management Unit 19 is so prevalent. They are as follows:

1. The area is 98 percent private land, leaving little area open for free public hunting which is the American tradition. It is especially bad because the success of hunters in the area is so high.
2. The area is portrayed by the media as some of the finest big-game hunting in the state, while failing to mention to their audiences that the land is almost all privately owned.
3. The opportunity to sell hunting permits on tracts of land where the land is not suitable for wildlife or where hunter success is low is widespread in the area, thus, encouraging these hunters to trespass onto better areas.
4. The existing laws are not strict enough and there are not enough people to adequately enforce the laws.

#### Landowners With Small Landholdings

The cost of hunting on land lower in elevation, or on those areas which are of sufficient size with adequate habitat to shelter big-game animals, ranges slightly to significantly less than hunting on the big ranches. The prices of trespass fees or hunting club memberships run between \$50 and \$150.

Surprisingly, about 65 percent of the land located in the traditional winter range is leased to hunting clubs or the owners are able to sell trespass permits on the land.

### Damage Responsibility

Of the ranchers questioned, 63 percent expressed the view that the Division of Wildlife Resources should pay in full for damage caused by wildlife. The other 37 percent stated that they believed it was the responsibility of the landowner to protect himself--either protect his own hay or be willing to absorb any damage from big-game that he might receive. Just as with the large landowners, the small ranchers who had big-game-proof stackyards expressed more often than not that it was the responsibility of the rancher to protect himself.

### Herd Management

The differing views on herd management range from slight to profound. Because the summering ranges are higher in elevation and much larger in size, the big-game animals are more widely dispersed in the summer months. But, during the winter months, the big-game animals tend to congregate and concentrate onto small areas, thereby affecting fewer landowners; but those who are affected are affected more intensely.

The landowners whose land lies outside the winter concentration areas are usually more inclined to desire larger herd sizes, especially if they sell their own trespass permits.

Close to 85 percent of the landowners who sell their own trespass permits desired larger herd sizes, whereas only 22 percent of those landowners leasing to a hunting club wanted any increase in the deer herd size.

In respect to those landowners who do not allow any hunting outside of family and friends, the outcome was close to even with 45 percent desiring larger herd sizes and 55 percent desiring fewer big-game animals on their land.

Two percent of the ranchers interviewed expressed a desire to exterminate big-game animals in the area.

### Concerns

The concerns of the small landowners are basically the same as the large ranches except for their slightly differing views on herd sizes. The major concern expressed was the prevalence of trespass. The number of trespassers and their boldness gets more intense each year. The factors contributing to this problem have been discussed previously.

Another concern that was expressed frequently enough to warrant mention was the concern of the local people that the cost of hunting will increase to the point that they will not be able to hunt on land they grew up on. This is especially disturbing to them when it concerns land that they and their families have been hunting on for numerous years, and to see it leased to private clubs and their traditional rights taken away is very disturbing.

A point of concern with nearly all of the ranchers questioned was the use of alfalfa fields by deer. Studies to accurately determine the amount of use by big-game are as yet nonexistent. There is, although, considerable promise in a new method to measure this type of use now being developed through the Cooperative Wildlife Unit at Utah State University. This study will try to determine the amount of use by determining a deer head count at specific intervals of time. A reliable and accurate method of determining use on alfalfa fields would be a major help to professional managers and landowners alike.

### Goals and Objectives for Wildlife Enterprises

Very few of the landowners in Deer Herd Management Unit 19 have devoted much time or energy to the development of a management and/or

marketing scheme for big-game animals on their land. Those who have, and who have advertised nationally are receiving high returns. One rancher, in particular, is receiving \$500 per week per hunter, and he books twenty hunters per year. Ten thousand dollars as a sideline enterprise to his cattle operation is definitely worth the small amount of time and money he puts into it. He claimed that if it were not for the hunting, he could not make it financially.

More and more landowners in the unit are starting to see the financial potential of the wildlife on their land. One rancher put it, "I see selling of hunting permits on my land as a way to support my cows . . . instead of me having to work in town to support them."

#### Seasonal Migration and Distribution of Deer in Unit No. 19

##### Fall Migrations

Hickman (1971) stated, "the mechanism triggering fall migration of the deer wintering in Unit 19 appeared to be snow depth." He found that as the snow cover increased over about twenty inches that the migrations to the wintering grounds started.

Fall migrations start as a trickle of animals heading to lower elevations as early as November 1, but the bulk of the movement does not take place until the last part of November and the first few days of December.

Since the migrations are contingent upon snow depth, it is feasible that no migrations would occur during a very mild winter. The less severe the winter, the higher in elevation the deer stay.

Hickman (1971) found deer that summer together may or may not winter together, although the vast majority do. He found that some animals that

summer in Unit 19 winter in surrounding management areas and the reverse also is true.

Figure 1 shows the defined fall migration routes of the Coalville Deer Herd as determined by observations and tag and sight returns of marked deer.

### Spring Migrations

The availability of green forage as it appears in the spring is the major factor leading the deer back to higher elevations.

Hickman (1971) found a few tracks above the receding snowline but most of the animals concentrated on meadows and southerly exposed slopes.

Spring movement to the summer ranges usually starts near the end of April and progresses upward with the melting snowline. Hickman (1971) determined that some deer migrated a maximum of sixty airline miles from wintering areas to summer ranges, although the vast majority of the herd migrated less than fifteen miles.

The deer start migrating through the Chalk Creek Basin about the middle of May, but the migrational peak around the northern rim of the basin does not occur until the end of May. The migrational peak up through the East Fork of Chalk Creek occurs near the first of June.

In a normal year the deer make it to the northern and elevational extremes of their range between June 15 and 25. Figure 2 shows the defined spring migration routes of the Coalville Deer Herd as determined by observations and tag and sight returns of marked deer.

### Winter Distribution and Concentrations

The limits on the winter range for both a normal and severe winter were determined with information from Hickman (1971), Division of Wildlife Resources, and personal interviews and observations.

Figure 1

## Fall Migration Routes

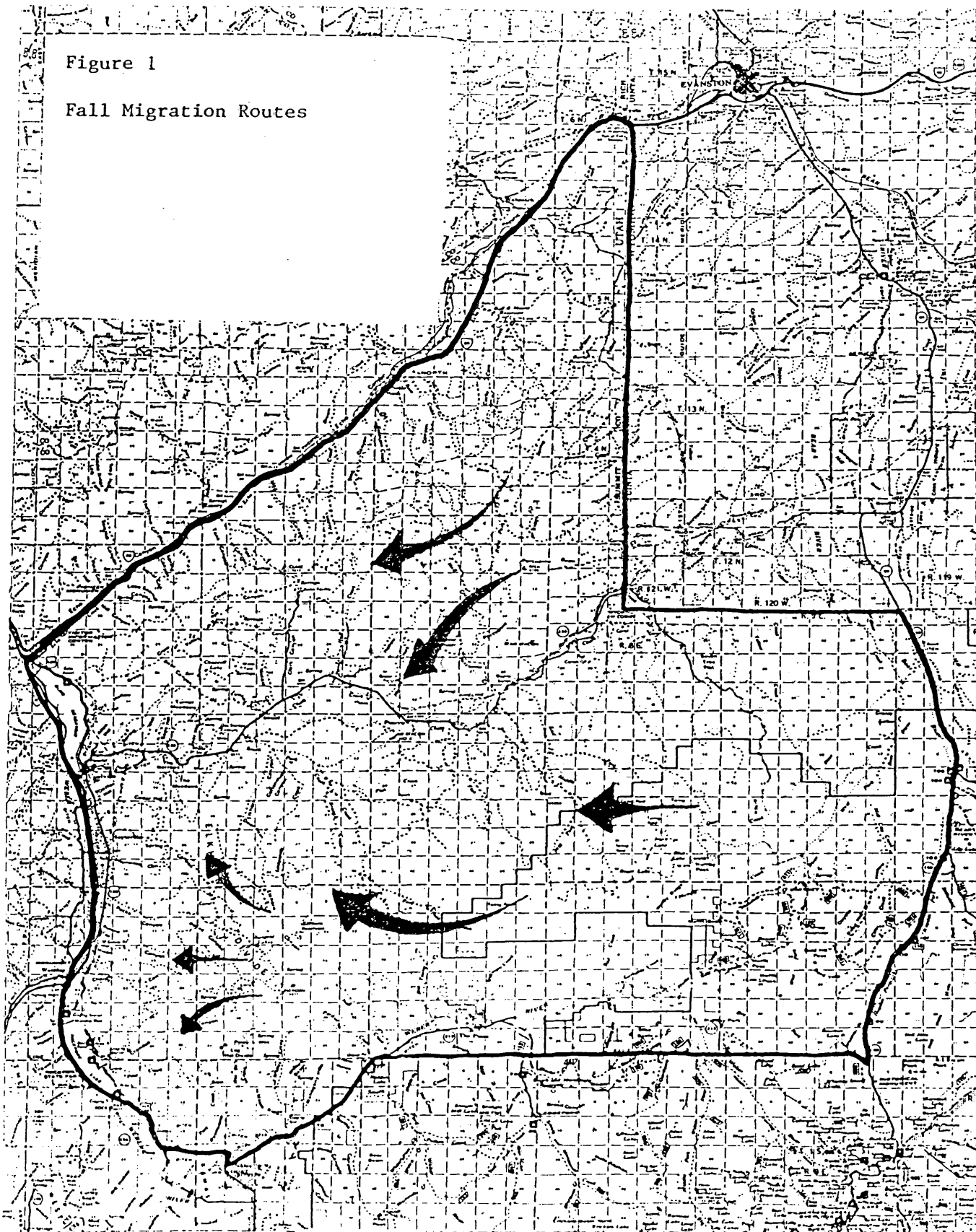


FIGURE 1. Fall migration routes.

Figure 2

## Spring Migration Routes

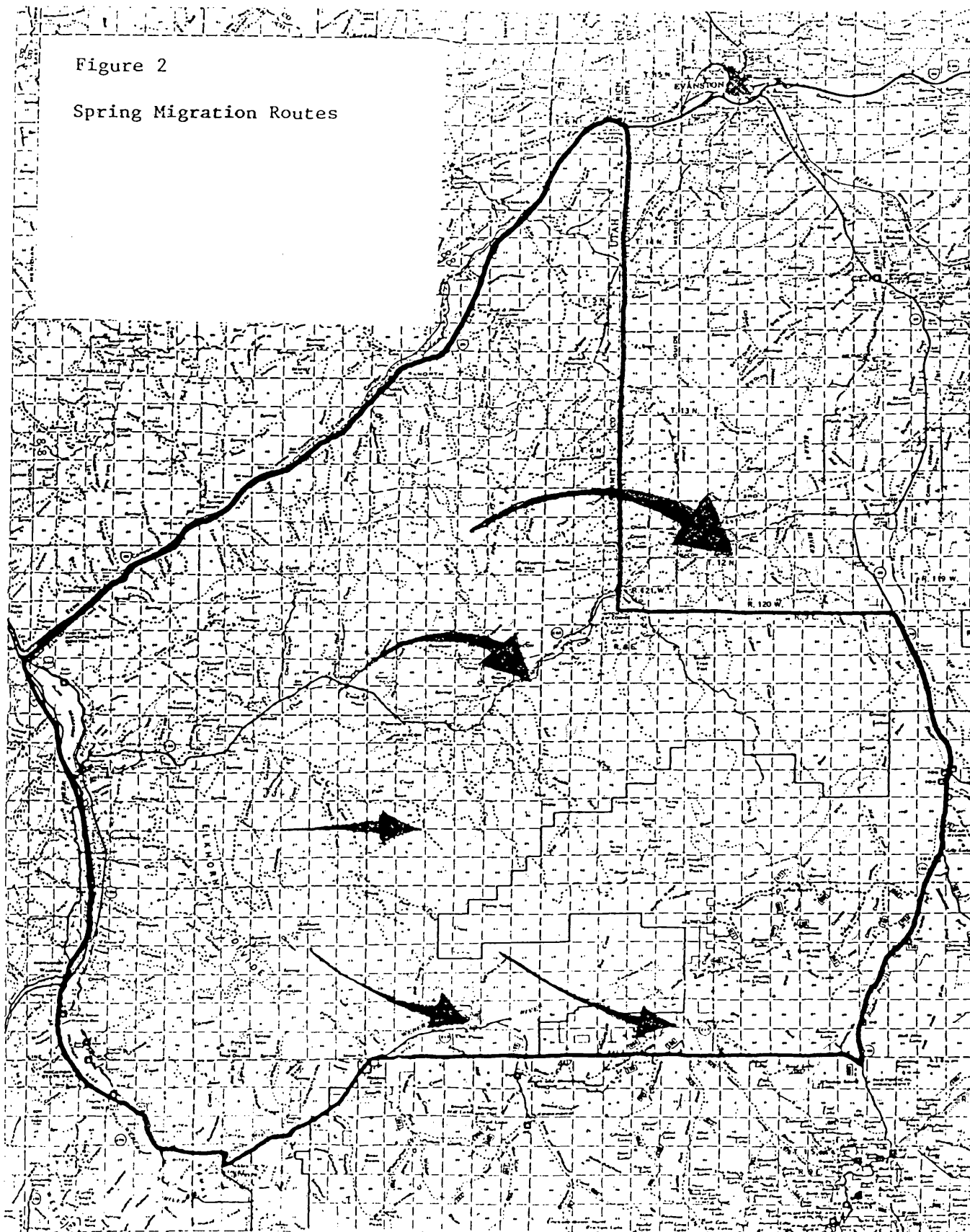


FIGURE 2. Spring migration routes.

The majority of winter habitat is made up of sagebrush/grassland type with oakbrush, mountain mahogany, juniper, aspen, and agricultural land intermingled.

Deer Herd Management Unit 19 encompasses several winter concentration areas, such as:

1. South Fork of Chalk Creek
2. Aspen Creek
3. Grass Creek
4. The Narrows
5. Pecks, Hixon, Cherry, and Crandall.

Figures 3 through 6 depict the distribution and concentrations of deer in Management Unit 19.

Figure 3 shows the limits of the winter distribution during a normal winter. Figure 4 depicts the limits of the distribution of deer during a severe winter. Figure 5 points out the major deer concentrations during a normal winter. Figure 6 shows where the concentrations were during this past extremely difficult winter of 1983-84.

#### Summer Distribution and Concentrations

The deer in Management Unit 19 have a wide summer distribution and can be seen almost anywhere in the unit at any time during the summer months.

Hickman (1971) found that the summer distribution of the Coalville Deer Herd, as determined by tag and sight returns, closely coincided with the quaking aspen belt of Chalk Creek, Weber River drainage (above Oakley), and Yellow Creek drainage. He observed more deer in the aspen stands during the summer than in any other type of cover.

Data from personal interviews closely coincided with Hickman's data except that considerable use was reported in both the mountain mahogany and conifer vegetation types. Although nowhere near the extent of use as the

Figure 3

Normal Winter Distribution

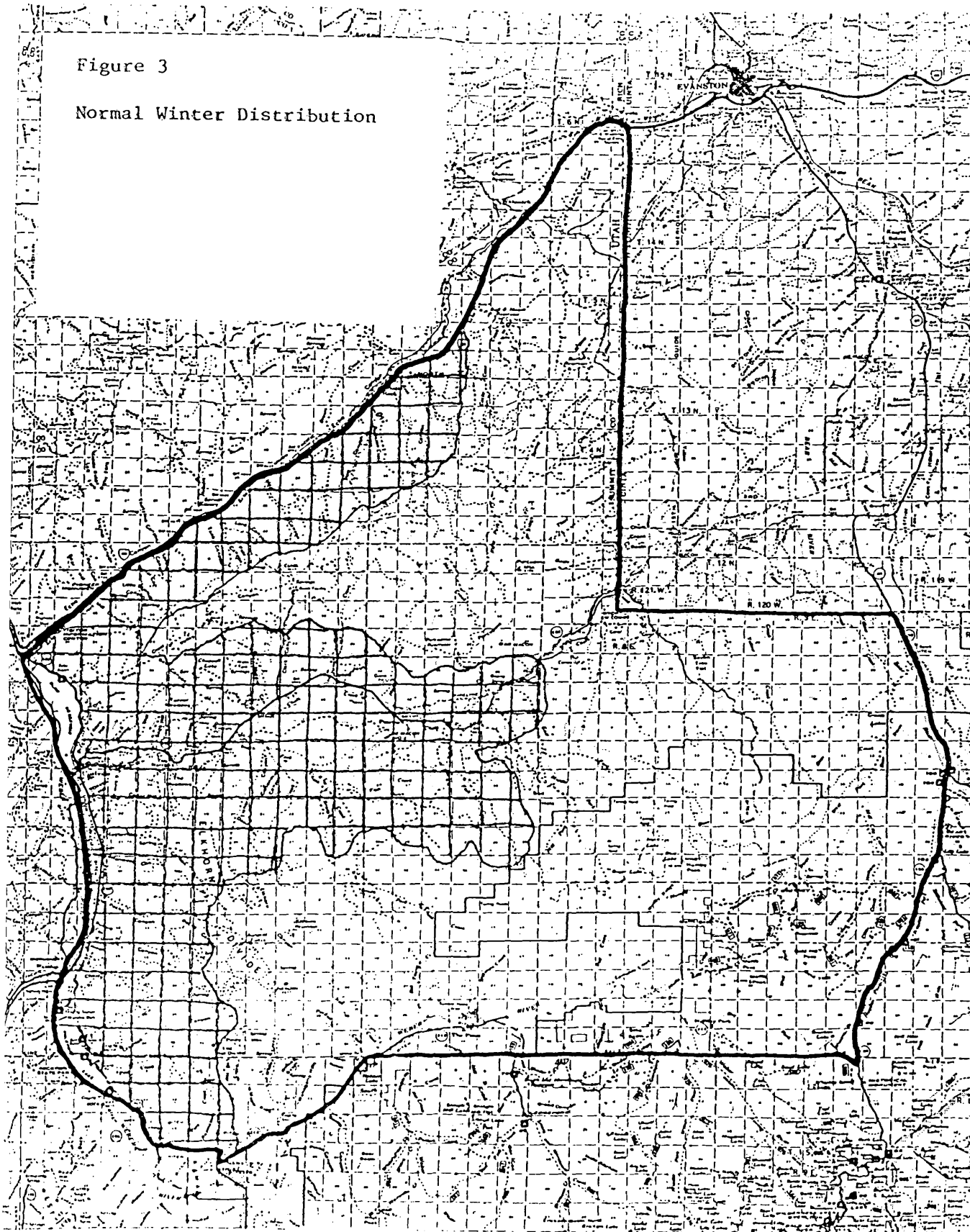


FIGURE 3. Normal winter distribution.

Figure 4

## Severe Winter Distribution

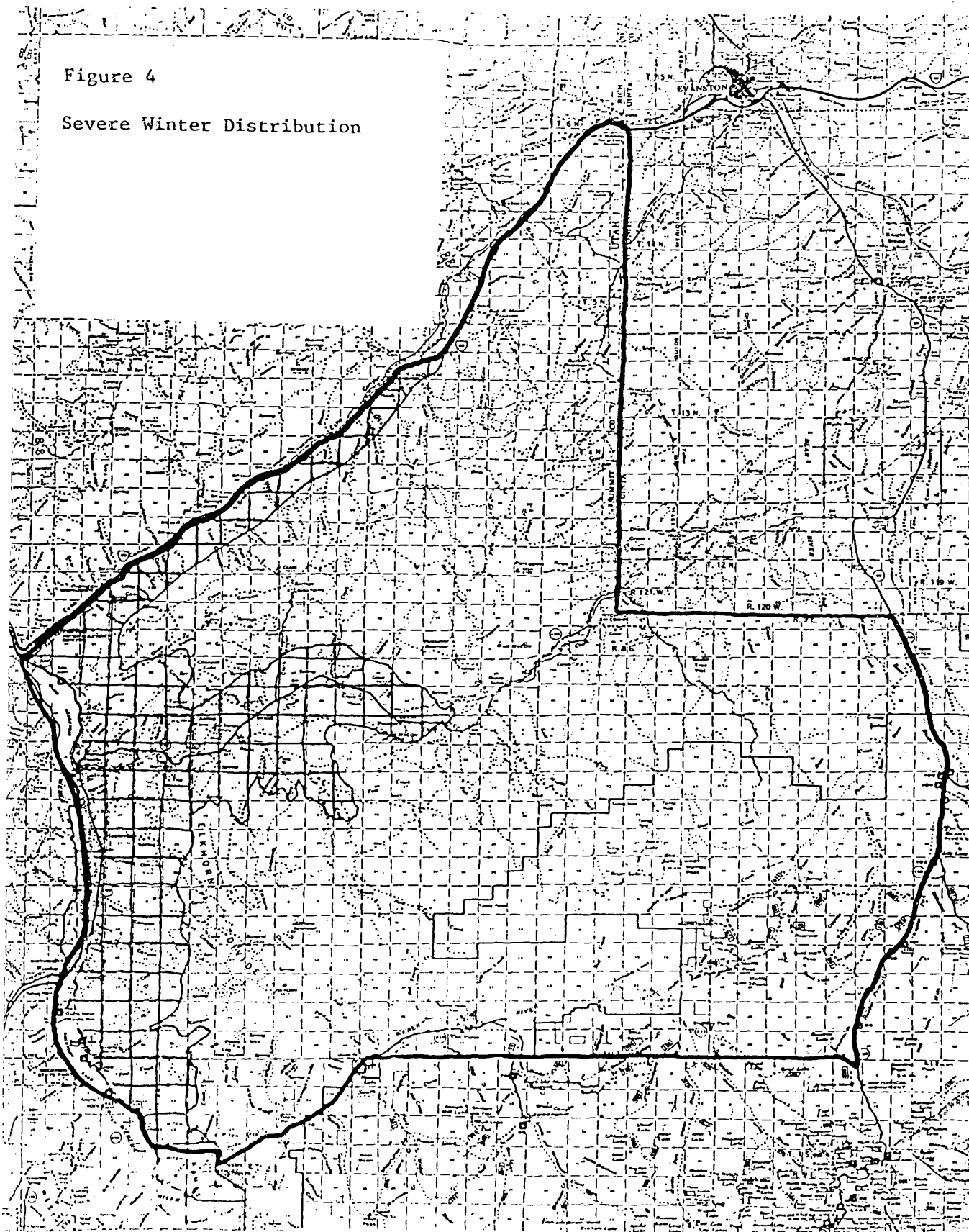


FIGURE 4. Severe winter distribution.

Figure 5

Normal Winter Concentration  
Areas.

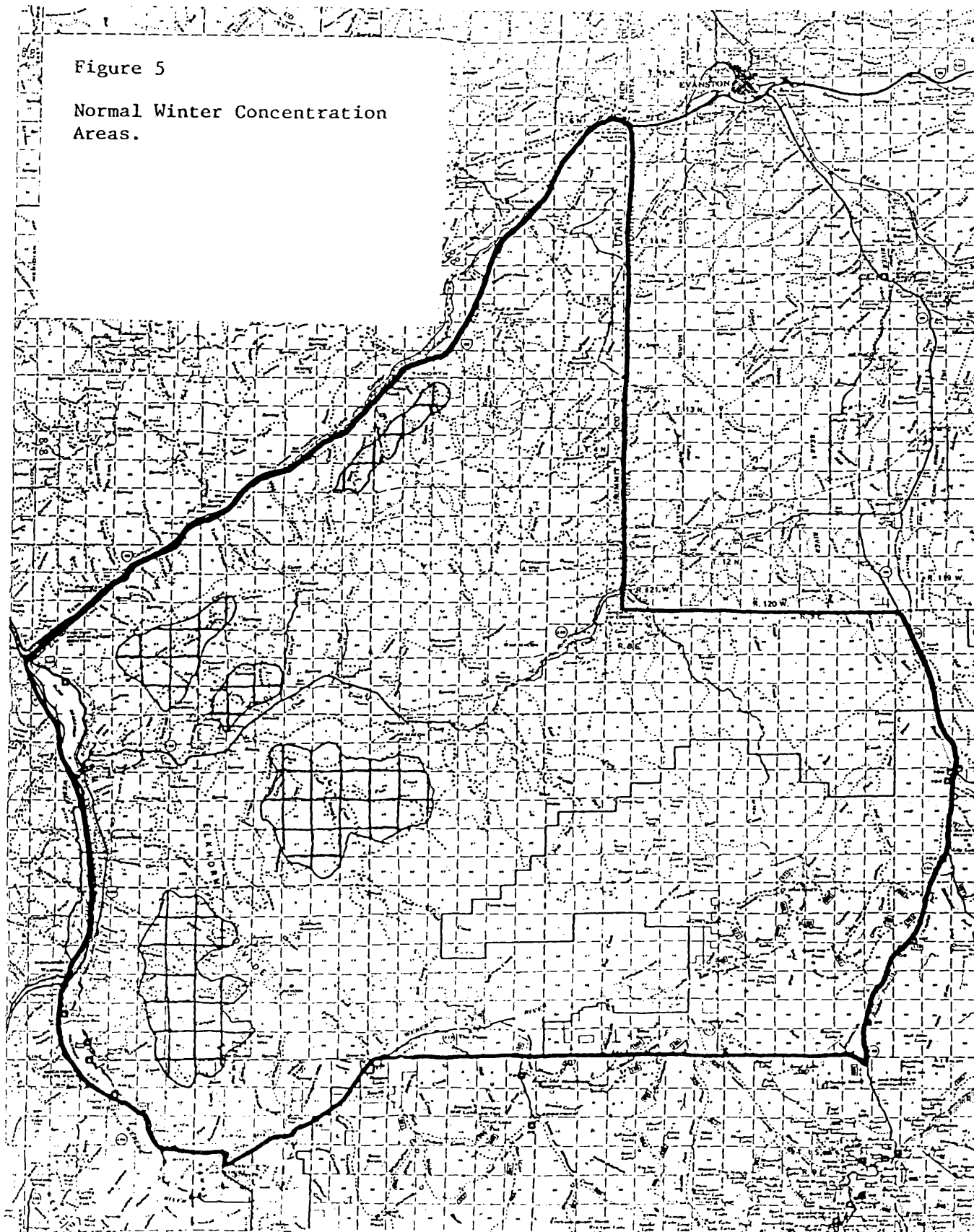


FIGURE 5. Normal winter concentration areas.



aspen type, summer use in these two types was heavy enough to warrant mention.

Figure 7 shows the summer distribution and concentrations of deer in Management Unit 19. The wide distribution can be attributed somewhat to the agricultural activity in the area. Many deer use the hay fields in the unit. Most of the use occurs in early and late summer, but some landowners claim they have a few deer in their hay fields all summer.

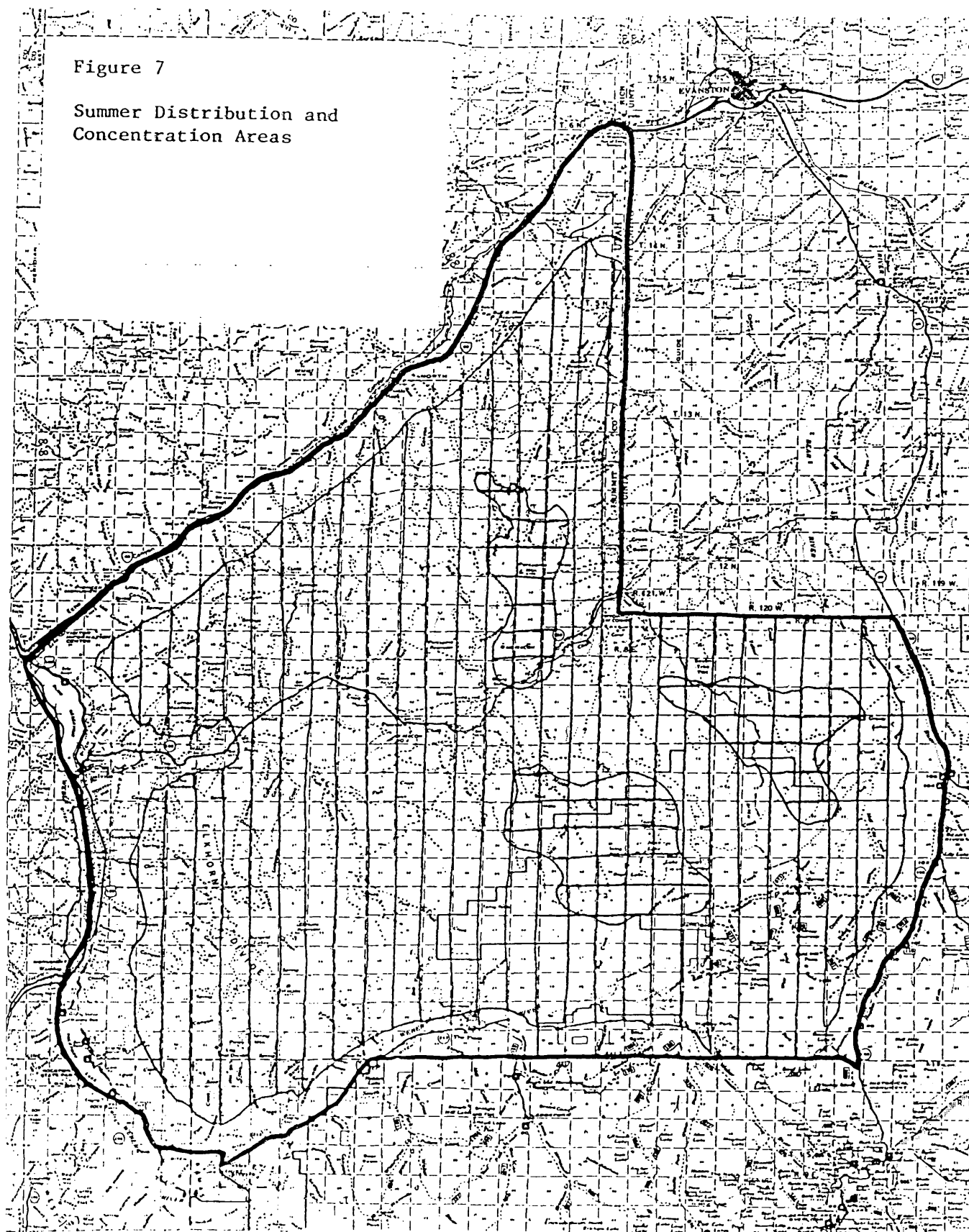


FIGURE 7. Summer distribution and concentration areas.

## IMPACTS BY BIG-GAME ANIMALS ON UTAH'S PRIVATE LAND

Considerable controversy has arisen in recent years over the economic impacts associated with big-game animals using private land resources. Wildlife is unique among our natural resources. We all own it, yet no one is willing to pay the associated costs of maintaining it. Until recently the economic incentives were simply not there for ranchers to include wildlife in their management schemes. Now, slowly but steadily, some landowners are finding that big-game on their land can be used for monetary benefit, thus, counterbalancing some of the cost incurred from the animals using their resources.

The results of this study show the costs and related benefits of big-game animals on private land in the area of Coalville, Utah. The major portion of the study area lies in that portion of Summit County northeast and southeast of Coalville.

One of the major problems in the area studied lies in the fact that big-game herds (deer and elk) in the area are migratory, moving elevationally with the changing seasons. As a result, most landowners are affected to some degree in the production of big-game animals; but substantially fewer are able to share in the economic benefits obtained from leasing hunting rights. If one does not have animals on his land during the hunting season, it is hard to sell trespass permits which allow hunting. Those landowners who support the burden of big-game concentrations in the winter rarely have huntable populations on their land during the fall hunting seasons. Therefore, the problem lies in the inequity of the distribution of benefits. Some pay the costs of producing wildlife, others receive the benefits.

The study area is unique in the fact that it is 95 percent

private land (see Table 1) and contains some of Utah's finest and most productive big-game land.

TABLE 1. Range Area and Ownership Pattern

Ownership	<u>Summer Range</u>		<u>Winter Range</u>	
	Acres	%	Acres	%
Forest Service	11,900	5		
Private	226,200	95	91,000	97
Wildlife Resources			1,400	2
State			600	1
TOTAL	238,100		93,000	

SOURCE: DWR Publication 79.3.

#### Big-Game Costs

Table 2 shows private landowner estimates of big-game use cost based on a random sample of farmers and ranchers in Deer Herd Unit 19. The data from the farmers and ranchers show an estimated loss or damage cost of \$9.35/acre for elk and \$6.15/acre for deer on cropland, and \$3.74/acre for elk and \$1.22/acre for deer on rangeland. These are averages for all the private acres in the unit. There are, of course, areas more heavily impacted and many areas receiving little, if any, damage.

It has been assumed in this analysis that crops and hay consumed by big-game would otherwise have been available for export sale as a farm crop, and that rangeland forage would otherwise have been available for domestic livestock, and that costs incurred in the maintenance of

fences would have been available for debt service, investment, or inventory additions.

TABLE 2. Damage Costs from Deer and Elk on Farms and Ranches in the Sample

	<u>Use of Rangeland by Species</u>		<u>Use of Cropland</u>		Fence Main- and Related Costs	Total Use Value
	Deer	Elk	Hay	Other		
Acres	21,204	14,096	1,648	216		
Dollars	25,868	52,719	17,496	2,519	4,320	102,922

Table 3 shows a projected estimate of big-game private land use cost when expanded to include the entire area of Utah's Deer Herd Unit 19. It must be pointed out that these tables are based on estimates from data received from the farmers and ranchers and assumes that the information received from them is both truthful and accurate.

TABLE 3. Damage Costs Caused by Deer and Elk in Utah Deer Herd Unit 19

	<u>Use of Rangeland by Species</u>		<u>Use of Cropland</u>		Fence Main- and Related Costs	Total Use Value
	Deer	Elk	Hay	Other		
Acres	52,308	31,350	3,896	520		
Dollars	63,815	117,249	39,609	6,964	6,550	233,287

#### Forms of Damage

The degradation comes in various forms, the most prevalent being

the use of rangeland forage. The second major concern of the ranchers was the use of croplands (predominantly hay) which also includes the degradation on haystacks.

One cost that has not been mentioned is the cost of damage done by hunters and recreationists. This damage comes in the forms of time spent rounding up livestock after gates have been left open, fixing fences where trespassers have cut openings, and time spent guarding land against trespass. When the vast amount of time spent in these and other activities is taken into account, the cost of trespassers and inconsiderate hunters and recreationists adds up to a considerable financial burden to resident landowners.

#### Benefits

Table 4 shows the average dollars received per acre, total acres leased for hunting, and total monetary benefits to farmers and ranchers from the lease of hunting rights in the unit. In this particular area, these data must be divided into sections. The size of the parcel must be taken into account because of different monetary benefits received depending on the acreage of the ranch.

The total use cost estimates do not take into account net income gains attributable to expenditures within Coalville Deer Herd Unit 19 by big-game users, nor do these data account for the nonmonetary benefits associated with the presence of big-game in the unit. These omissions must be considered when making management decisions relative to big-game.

To take into account these stated omissions we can proceed in a couple of different ways. One way is to use Wennergren's method of

TABLE 4.

Size of Land Parcel (Acres)	Dollars Received Per Acre (Average)	Total Acres Leased for Hunting	Total Monetary Benefits to Landowners
1-100	\$0.20	3,450	\$ 690
100-500	0.25	8,920	2,230
500-1,000	0.34	37,350	12,699
1,000-5,000	0.39	91,487	35,680
5,000-10,000	0.41	<u>27,463</u>	<u>11,260</u>
TOTALS		168,670	\$62,559

determining resource values for resident deer hunting in Utah (Wennergren 1967) or we can use Hansen's big-game user day values (Hansen 1977). The simplest and most straightforward way is to use big-game user day values, consequently, that is the method used in this analysis.

Hansen (1977), in his report to the Intermountain Region of the Forest Service, determined a big-game hunting user value of \$47.44 and a nonconsumptive use value of \$1.68 per user day. From Hansen (1977 and 1979) and the Utah Division of Wildlife Resources, we get a conservative estimate of 2,950 big-game user days per year occurring in Deer Herd Unit 19--this amounts to \$144,904. When this amount is added to the monetary benefits to the landowners from the lease of hunting rights, the total monetary benefits from big-game in the unit amounts to \$207,463. When this figure is compared to the costs of big-game in the unit, we find \$25,824 costs over benefits.

One additional method of determining the economic benefits of big-game in the study area that could be used is willingness-to-pay, as determined by the amount sportsmen pay to join one of the local hunting

clubs. The two hunting clubs in the area that offered information stated that they bring in a sum of \$150,500 in dues per year. These are only two of five hunting clubs that operate in the area. The total value paid by sportsmen for hunting rights is estimated to be quite large, maybe as much as the cost to landowners of supporting the herds.

Still, these data do not account for the nonmonetary benefits to Summit County residents, Utahns, or society as a whole, associated with the presence of big-game in the unit. These benefits must at least be considered in order to make equitable decisions regarding big-game management objectives and possible compensation for damage procedures.

#### Movement of the Big-Game Herds

The mechanism triggering fall migrations of big-game animals wintering in Deer Herd Unit 19 appeared to be snow depth. The migrations to the wintering areas started as the snow cover increased over about twenty inches (Hickman 1971).

Fall migrations start as a trickle of animals heading to lower elevations as early as November 1, but the bulk of the movement does not take place until the last part of November and the first two weeks of

December. These animals stay on the wintering areas until the snow melts and/or forage starts to grow in the spring.

The major factor leading the deer back to higher elevations in the spring is the availability of green forage. The following map (Figure 1) illustrates the movement of the big-game herds and the corresponding concentration areas.

#### Impacts Associated with a Change in the Size of the Big-Game Herds

One of the major overall objectives of this study was to determine those people and organizations who would benefit and those who would be negatively affected by an increase or a decrease in the size of the big-game herds in the Coalville, Utah area. The following attempts to more clearly define the impacts associated with those changes.

#### Affects of Increase in the Size of the Big-Game Herds

Hunting clubs, whether in the business for a profit or not, would be the recipients of positive impacts of an increase in herd sizes. This is suggesting, though, that they would be positively affected only if the available habitat is able to support and maintain the increased herd size for the long run. If the available habitat is insufficient, the negative impacts of an increase would far outweigh the positive aspects of maintaining existing herd numbers.

Larger herds mean proportionately higher hunter success which makes admission into one of the local hunting clubs more desirable and higher in demand. Depending on the extent of the increase in demand, it could make a financial difference of between \$2,700 and \$18,500 per year for affected clubs. These figures are based on a 20 percent increase in the deer and elk herd sizes over the fall of 1983.

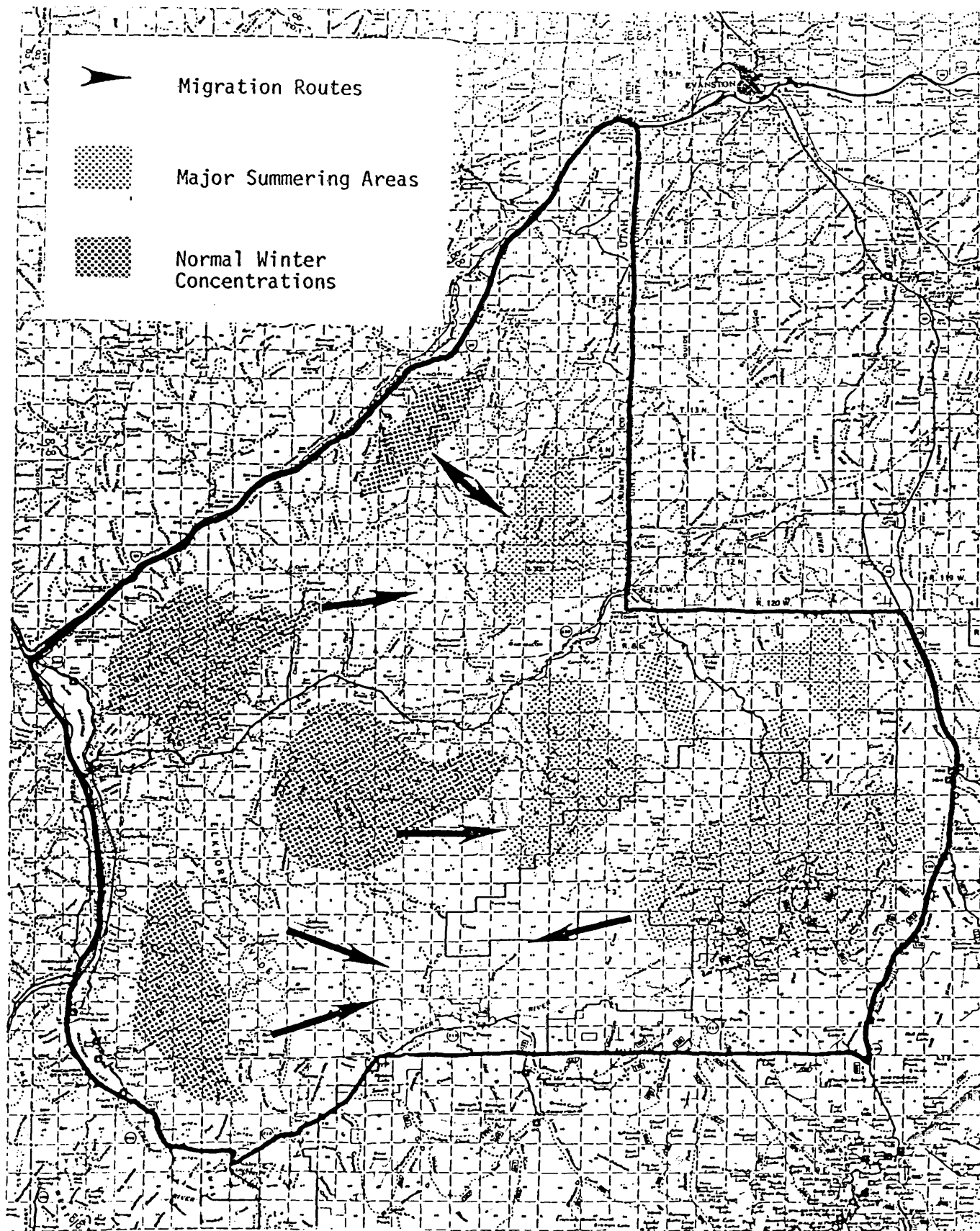


FIGURE 8. Migration Routes, Summering Areas and Normal Winter Concentrations

Hunters and other users of wildlife, both consumptive uses such as hunting and nonconsumptive uses such as camera hunting and nature study would be positively affected. It has been shown through numerous studies that both a hunter's and a sightseer's enjoyment of the time afield increase significantly when big-game sightings are more frequent. This is true even if the hunter is unable to harvest a deer.

There seems to be a greater number of people better informed about issues involving wildlife and better able to make intelligent, informed decisions concerning environmental issues. But, even with this increase in knowledge, the majority would still opt for herd size increases even when there would be a possibility of habitat damage. If one is not personally negatively affected by an increase in herd size, more often than not, he will support an increase.

On the other hand, when going into the winter with larger than normal big-game herds and the winter turns out to be severe, the affect is totally negative. Winter conditions such as those that occurred during the 1983-84 period have shown that when animals are concentrated on winter ranges, whether caused by severe weather or by animal numbers which exceed the carrying capacity of the winter range, the habitat can be desecrated. Winter ranges recover slowly. Areas that would be most affected would be the major winter concentration areas. If faced with another winter comparable in severity to the winter of 1983-84, almost all low-elevation deer wintering areas would be impacted to some degree.

Spring use on alfalfa fields would certainly increase. The problem of spring use of alfalfa fields by big-game is one of considerable controversy, and there are few reliable consistent methods of measuring the impacts.

The most severe problem with deer using alfalfa fields occurs in the fall. Eighty-two percent of the area ranchers claimed to get fall use on their fields. The extent of the use varies from slight to an entire cutting of hay being foregone because of extensive deer use.

Most landowners in the area suggested that any increase in herd numbers over the proposed objective of the Division of Wildlife Resources is unwarranted and economically unjust to the resident landowners.

#### Affects of a Decrease in Big-Game Herds

The landowners who have wildlife depredation problems would, of course, support actions leading to smaller herds. The idea of wildlife enterprises on private land is still basically an unexploited asset in the unit; but, as the recognition of the value of the wildlife resource becomes more apparent, landowners will demand a greater input in the management of the herds.

Regrowth and improvement of overused vegetation on winter range would accompany a decrease in herd size. A few mild winters also would help in keeping the deer herd dispersed and allow habitat on the concentration areas to recover.

The imminent overriding question concerning a herd reduction would be what those persons, who are able to exert political pressure, think about the move. Also, hunters and other outdoor groups are gaining in political power and are becoming better able to use political pressure points to achieve their goals. Unless there was sound scientific evidence and the public was thoroughly educated about the issue, it would be hard to get support for a managed reduction in the size of the Coalville big-game herds.

Additional Need for Research

Hopefully, this case study has brought to our attention the vast amount of research that needs to be done in the area of wildlife economics. There still are no consistently reliable methods of measuring the monetary impact of big-game use of private land nor are the benefits from those same big-game animals easily fitted into the travel cost, user day, willingness-to-pay, or similar methods of determining benefits. No claim is made that the data presented in this paper are representative of any other area but, hopefully, will motivate research more representative of state or regional areas.

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## LITERATURE REVIEW

## COMPETITION BETWEEN BIG-GAME ANIMALS AND LIVESTOCK

Competition for forage between animal species occurs when two or more species prefer the same food items and the supply or area is limited. Wagner (1978), in his chapter on livestock grazing and the livestock industry, states "the population effect is the essential criterion of competition" and that two different species can use a common resource without necessarily competing. His position is that competition takes place only where the resource is used to the point of being in short supply, and the populations are affected as a result.

Competition Between Cattle and Mule Deer

Numerous studies have been conducted on mule deer and cattle relating food habits to various range plants and interspecific competition. Kufeld et al. (1973) summarized the results of almost 100 mule deer food habit studies. They reported that during winter, shrubs and trees averaged 75 percent of their diet, forbs comprised an average of 15 percent, and grass, sedges, and rushes comprised 11 percent. However, consumption of grasses and grasslike plants was quite variable in winter, ranging from 0 to 53 percent of their diet. The studies also showed that during the spring months, consumption of grasses and grasslike plants rose to 25 percent and 26 percent, respectively, and bluegrasses were highly preferred as soon as new growth became available.

McLean and Willms (1978), on their study of competition between cattle and mule deer on winter range in British Columbia, stated that interaction between cattle and deer took various forms. They suggested that the potential for competition between deer and cattle was mostly

related to bluebunch wheatgrass and was over a three- to four-week period in early spring.

In eastern Oregon, Vavra, Hilken, Sneva, and Skovlin (1981) reported that on both sagebrush-bunchgrass and foothill winter ranges, deer commonly consumed up to 50 percent grass. On sagebrush-bunchgrass ranges, browse, principally sagebrush, was consistently the most common forage class consumed. On foothill ranges typically devoid of shrubs, deer maintained the bulk component in their diets by consuming Ponderosa Pine.

Tueller and Lesperance (1970) suggested two general areas of competition between mule deer and cattle in Nevada; namely the early spring competition for grass and the fall competition for browse. Dasmann (1949) indicated that bitterbrush and bluegrasses were the primary key forage species utilized on an area of winter range where the most direct competition between livestock and deer occurred. Julander (1959) showed that on a deer winter range in Utah that was grazed by cattle in spring and fall, cattle preferred grass but utilized bitterbrush considerably and bitterbrush was the most preferred winter deer forage.

#### Competition Between Cattle and Elk

Summer ranges, though obligated for livestock grazing, do not usually present competition problems between cattle and elk (Edgerton and Smith 1971, Miller 1974, and Skovlin et al. 1976), except in isolated instances (Pickford and Reid 1943). Summer ranges are mainly public land, whereas most winter ranges are private land. Although not a subject of their investigation, summer or fall grazing of foothill range by cattle prior to winter use by elk may create local winter food shortages under situations of poor management. Stevens (1967) suggested that the most probable conflicts between elk and cattle will occur where grasses are the

main forage. He also stated that while this is possible, it is unlikely. For this competition to take place, cattle would have to increase their usage of ridgetops and southern exposures.

While Berg and Hudson (1976) observed large dietary overlap between elk and cattle and determined a 30 percent overlap in topography and range type usage, they failed to verify any detrimental conflicts.

#### Competition Between Sheep and Deer

Workman and Low (1978) state that the potential for competition between deer and sheep is greater than the potential competition between deer and cows because of the greater diet overlap of sheep and deer.

Longhurst, Hafenfeld, and Connolly (1979) also reported there is more overlap in the diets of sheep and deer than between cattle and deer. A surprising fact they stated was that while sheep numbers have been declining on western ranges since about 1930, total livestock use of ranges actually showed a steady increase between 1950 and 1975. Concurrently, the numbers of mule deer generally declined. Although there is some variation in the peak deer years, most states reported peak populations from the late 1950s to the 1960s (Connolly 1981). By the late 1970s, herds in some states appeared to be recovering; but, on the whole, deer numbers in the west remain below peak levels experienced fifteen to twenty years ago. They suggest that undoubtedly many factors contributed to this decline, but nutritional deficiencies were considered to be paramount (Pengelly 1976).

The most surprising finding of the Longhurst, Hafenfeld, and Connolly (1979) study was the finding that fawn production or survival, or both, was consistently higher on sheep allotments than it was on cattle allotments. The reason for this difference was not suggested by the authors.

### Competition Between Sheep and Elk

Stevens (1968) in his report of his study of range relationships of elk and livestock done in the Crow Creek drainage of Montana suggested that sheep and elk conflicts can be expected in the open parklands and along sheep trails. He did, however, state that this type of conflict is not very likely to occur. The major point of concern he expressed was the competition between sheep and elk for forbs during the months of June and July.

The vast majority of the literature makes little comment on competition between elk and sheep. The suggestion is that during normal circumstances, there is little detrimental conflict between the two species. Only during times of early heavy grazing of the high mountain pastures by sheep will competition occur. Some people do perceive a problem of big game and livestock competition on grassland range.

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## APPENDIX I

### CASE STUDIES

## CASE STUDY

### HUNTING CLUB #1

Hunting Club #1 is an organization that leases private land during the hunting seasons for the purpose of obtaining access for its members.

#### Costs and Benefits

The cost of belonging to Hunting Club #1 is \$2,000 for a lifetime card plus \$225 per year per individual and \$275 per year for a corporation. A card or single membership includes the opportunity for three people to hunt. In other words, a card includes three guns. They believe that by offering three guns per membership that this provides more opportunity for family recreation.

The benefits derived from having limited access lands available is unquestioned in terms of the high hunter success when compared to the statewide success ratio. Hunting Club #1 members are entitled to hunt on all lands controlled by the organization except those areas they hold as special permit areas.

#### Access Control

Access onto grounds controlled by this hunting club is based on a reservation system. Reservations are taken by the organization months in advance for specific days on specific ranches. They think that by controlling the numbers of hunters on certain land areas they can reduce hunter to hunter sightings and, therefore, increase the quality of the outdoor experience.

Not only do they limit access but also the number of animals that are harvested from individual pieces of land. The number of animals that they allow to be harvested is determined by the governing board of the

hunting club. This board includes people trained in wildlife management, range management, and outdoor recreation. If overharvesting occurs on a particular section, they will close it immediately, thus, insuring the long-term productivity of the herd.

#### Family-Oriented

This hunting club is family-oriented. One of the goals of the organization is to allow a member to take any, or all, of his family with him on a hunting trip.

High personal standards are expected and demanded of members. Drunkenness results in the immediate revocation of membership rights.

Officers of the club stated that there have been drastically fewer landowner complaints since they instituted the bylaw against drunkenness.

#### Donate to Winter Feeding

They have contributed upwards of \$12,000 towards deer feeding during the winter of 1983-84. They stated that they may end up spending as much as \$15,000 to protect their interests in the Coalville area.

The money that the club has donated has gone directly towards deer feed in the form of pellets. They are skeptical of where all the money that has been donated to the Division of Wildlife Resources has gone. They believe that some of the money has gone to "management."

Money donated by Hunting Club #1 has come from dues collected from members. When asked why they have donated the money, they stated that it is in their best interest to do so. They also stated that not only do they think the money is well-spent, but, also, feeding starving animals is a moral issue and cannot be reduced solely to an economic issue.

### Herd Management

This organization would like to see the deer herd managed to meet a wider variety of human desires. They would like to see certain areas managed specifically for trophy bucks. They also stated the desire to have at least some of these trophy areas accessible by vehicle not just back-country areas such as now exist. They think that in this way the wildlife resource would have greater appeal to the whole spectrum of Utah sportsmen.

There has been many misconceptions about how this hunting club thinks doe hunts should be handled. They not only expressed the idea that they understand the need for doe hunts in the scheme of proper herd management but also that their members do not pay sufficient dues to shoot a doe. They believe that there are other ways to handle the excess doe population. One is to have late season doe hunts such as now exist so that animals can be harvested after they leave the property controlled by the club. Another way that they suggested to the Division of Wildlife Resources was transplanting the does. The club made an offer to transplant the portion of does that should be harvested and received a flat rejection from the Division. The statement was made that the Division of Wildlife Resources just did not want anyone meddling in their business. The Division stated that they just did not have a place to put that many female deer without drastically affecting another deer herd.

Given the club's objective to make money and provide a quality outdoor experience for its members, large deer herds help them achieve this goal.

### Habitat Manipulation

The question was asked if the club has done, or are doing, anything to maintain or improve habitat on the lands they lease. In their opinion

it is not feasible to do habitat manipulation on their big game lands. They stated that the benefits of such a program do not outweigh the costs. However, on their pheasant and waterfowl lands, the costs are not as high and the benefits are more easily seen. It is much easier and cheaper to control the water level in a marsh, for instance, than to spray sagebrush on an elk winter range.

#### Short- and Long-Term Goals

The short-term goal of this hunting club is to provide lands for a quality outdoor recreation experience for its members.

The long-term goals are: (1) to provide and assist in public education on natural resource issues concerning game animals; (2) to teach firearms respect and safety to both the young and old members alike; (3) to assist, when possible, and demand, when needed, the proper management of our big game herds; and (4) to provide family recreation and teach appreciation and respect for our natural resources.

#### The Future of Hunting

Hunting Club #1 suggested that hunting is not strictly a rich man's sport and probably will never be in the United States because of the amount of public land. However, they did say that definitely the person who has the most money to devote to an outdoor recreation experience will have the most opportunities afforded him. They suggested that on private land the lease of the right to hunt will be put more on the open market and advertised to a wider segment of our population. This will mean higher prices for the opportunity to hunt private lands.

It was suggested that in the future something is going to have to be done on public lands also. Professional club personnel implied that we are

headed toward restricted access even on our public lands and that this ;is a necessary evil to maintain "quality" in the sport of hunting.

#### Damage Responsibility

Club officers think the hunting clubs that lease property where damage occurs should provide financial assistance to those who are receiving damage. They did, however, fail to mention that very little of the land where damage occurs is suitable for hunting leases. It is mostly lowlands, far lower in elevation than where the deer are during the hunting season.

#### Financial Arrangements of the Leases

Hunting Club #1 stated they spend \$110,000 on hunting rights for the area around deer herd unit 19. Of this, \$85,000 is spent strictly for the lease of the property. Another \$25,000 is spent on fence maintenance, road repair and maintenance, and liability insurance for the landowner.

## CASE STUDY

### HUNTING CLUB #2

Hunting Club #2 is a nonprofit corporation that leases hunting rights on private lands for the purpose of obtaining access for its limited membership.

#### History

Hunting Club #2 was started by a few concerned local individuals who were aware of the fact that their hunting opportunities were dwindling because progressively more landowners were leasing their hunting rights to private hunting clubs. These concerned individuals decided that if they were to have secure and reliable places to hunt, they were going to have to act promptly. They decided to form their own club made up of residents or past residents of the north part of Summit County. All of these people expressed a common desire and goal: to establish and maintain long-term access to prime hunting areas.

With their desire to maintain long-term access, they have had to establish and sustain exceptional good sportsman/landowner relations. They stated that in contrast to Hunting Club #1, the retention of the access right has been accomplished more by cooperation with the landowner rather than the dollars involved.

#### Costs and Benefits

The cost of belonging to this hunting club is \$150 initially, and then between \$50 and \$100 per year, depending on the financial situation of the corporation.

The fee entitles the sportsman to hunt on all lands controlled by the club for the duration of the deer and elk hunting seasons. Club

members think the cost is more than adequately made up for by the quality of hunting on club lands.

One thing they do that helps in their relations with landowners is turn land access control back to the landowner immediately after the regular hunting season ends. Some hunting clubs maintain the property in their control year-round, especially when there is opportunity for summer recreation, such as fishing.

#### Access Control

Access onto lands controlled by the club is based on a limited membership basis. Only present and past residents of North Summit are considered for membership. Residency does not assure membership though. A limit on the number of memberships is set at two hundred. Each prospective member is thoroughly scrutinized by the club's board of directors which consists of nine men. The selection process seems to carry an almost fraternity flavor, making acceptance into the club somewhat a matter of politics.

The number of animals available for harvest determines the number of hunters allowed on the lands. If the board of directors believe the deer are plentiful enough they allow the sale of a limited number of "buddy permits", which entitles a nonmember friend to hunt club controlled land. Hunting Club #2's board of directors decided in the beginning to establish a maintain the best of landowner relations, they, therefore, issue two hundred landowner guest permits on most years. These permits are strictly for the landowners and a few of their close friends. By not excluding the landowner from his own land during the hunting season, the club has retained some of the land they would have otherwise lost to more monetary minded hunting clubs.

The method of deciding how many animals are available for harvest in a given year was not disclosed, but the owner of the land is involved in the decision-making process.

### Nonprofit

Because they are a nonprofit corporation, they have not donated any money to the deer feeding effort in this past year nor was any formal offer of club labor made. They did, however, have some members who maintained deer feeding stations throughout the winter giving freely of their time and energy.

### Short- and Long-Term Goals

Some of the short-term goals of Hunting Club #2 include the following:

1. Provide members access to quality hunting; and
2. Provide that access at a reasonable fee.

Long-term goals are geared toward the following:

1. Provide access to quality hunting for its members over the long run by maintaining the type of relations with the landowners that will allow them to keep the trespass right secure at a lower rate than would normally be charged of them.
2. To establish and maintain long-run cooperation with the Division of Wildlife Resources.
3. To improve landowner cooperation in the area of big game management and educate him to the fact that the harvest of does is an essential part of the management scheme.
4. To improve the image of the hunter in the eyes of the landowner.

Therefore, people who hunt North Summit land are expected to maintain high personal standards and hunting ethics.

5. To show the public that hunting clubs have workable and achievable goals and that "hunting club" need not be a dirty word.

#### Habitat Manipulation

When asked if they did anything to promote or maintain big game habitat on the lands they lease, they stated that since they are a nonprofit corporation, they lack the finances it would take to perform such action. They also stated that they would not perform habitat manipulation even if the funds were available to them. They reason cited for this is that they do not think that this would be cost-effective for them at this time. They did state, however, that in the future, as the demand and price of the hunting opportunity goes up, it may be financially beneficial for them to increase the quality of deer and elk habitat on their lands. They suggested that as habitat manipulation for the improvement of wildlife habitat becomes cost-effective, they will implement those programs.

#### Damage Responsibility

Club officers were asked if they felt any responsibility for damage caused by wildlife on the lands they lease. They replied that no they did not. They do think, however, that hunting clubs that show an economic profit should be responsible for damage on the lands they control.

#### Views on Herd Management

Hunting Club #2 expressed an understanding of the need for doe hunts. They suggested that the way they are managing the hunting time on the land they are providing more opportunity for the harvest of does. They turn the land back to the owner directly after the regular season hunts.

The landowner can then open his land up for late season doe hunts. They think that in this way they help alleviate some of the damage on the hard-hit lowlands. They said that they encourage their members to pick up a doe permit when they are available.

The club recommended some change in the management of the big game herds in the form of trophy areas. They suggested that just a few areas be put aside and managed specifically for trophy class male animals.

As a club, they already manage a small percentage of their land up Grass Creek for the trophy buck type. They encourage their members to kill only spikes and four-point or better bucks (western count). They, of course, have no recourse when their suggestion as to kill size is not followed but claimed to have very little trouble having their hunters comply.

They seemed to think that the overall size of the animals harvested on this area has increased in the past few years. (No data was available to support the claim.)

#### Land Agreement

They lease between 40,000 and 50,000 acres at an average cost of twenty-five cents per acre. This twenty-five cents per acre is an average cost; the real cost runs anywhere between twenty and thirty-five cents per acre, depending upon the number of big game animals on it.

## CASE STUDY

## RANCHER #1

Rancher #1 is a mink and cattle rancher from Coalville, Utah. His mink operation is one of the largest, if not the largest, in the state. He maintains a base population of three thousand breeding females. His cattle operation is run primarily on his land that lies about twelve miles east of Coalville up the Chalk Creek road.

Lease History

Up until September 1981, Rancher #1 was a member of the Echo-Chalk Creek Range Owners' Protection Association (ROPA) and leased the hunting rights on his property through that organization. September 1981 is when ROPA dissolved and marked the date when access for hunting in the area became more difficult and costly to obtain. The area underwent a transition from one large parcel of land that was relatively easy to obtain access on, to much smaller units of land controlled by private hunting clubs with limited memberships.

This rancher was one of the few landowners with large landholdings that did not lease to a private club. He has, however, been repeatedly approached by private clubs in the area trying to lease the hunting rights on his land. He maintains that he will not lease to a club and will leave access to his land open to anyone willing to pay the required fee. He suggests this type of management is less discriminatory than most of the clubs and stated that he likes to have personal control over the land and who is on it.

Cost of Hunting Rancher #1's Land

The cost of hunting on this land is very reasonable when compared to

the private clubs in the area.

He charges \$100 per hunter for deer and \$125 per hunter for elk and moose. This gives the hunter the right to hunt all 4,600 acres of his land plus 580 acres that a neighbor has put in the unit. This amounts to eight square miles of prime terrain available for the duration of the hunting season.

#### Permit Sales

This rancher has sold permits for the past three years. The first year that he sold permits, he only sold two. These were to a couple of Californians who could not find anywhere else to hunt. The second year he sold nineteen permits, and last year he sold twenty-nine permits. These permit sales have all been accomplished by word-of-mouth advertisement, except for a very small ad in the Ogden, Utah paper last year. He thinks that with too much advertisement, he would have to start turning people away. It seems that with his mink and cows, the hunting enterprise on his land takes a backseat and will continue to do so until such time that the economics of the situation make it feasible for him to devote more of his time and energy toward the wildlife potential on his land.

#### Views on Wildlife Damage

When asked if he had ever filed a damage claim, he stated that he had not and would not in the future. He believes that it is the responsibility of the rancher to protect his own hay from damage by big game animals. He implied that the animals have a right to be there just as he does, even commenting that they (the big game animals) were there first. This feeling of personal responsibility for wildlife damage is evident in his big game proof stackyards.

He does think that he receives some spring damage on his alfalfa fields by deer trampling and eating the early growth.

#### Habitat Manipulation

When asked if he did anything to improve wildlife habitat on his land, he stated that it is not economically feasible at this time. He also suggested that there are all the wildlife that he would desire already there. He stated that the habitat available on his Chalk Creek property is very good and in little need of improvement.

When asked if he would accept financial and technical assistance to improve the wildlife habitat on his land, he said that he might. He said that it would depend entirely on the type of program offered, and the costs and benefits of that program.

#### Damage Payments

He also was asked if people who post their land against hunting or lease their hunting rights to a private club should be entitled to damage payments by the state Division of Wildlife Resources. He suggested that if a landowner keeps his land totally posted against hunting he does not deserve to receive any reimbursement from economic harm caused by big game animals. He also suggested that if a landowner leases to a private club, that club should be responsible for damage caused by big game animals.

#### Herd Management

This rancher does allow doe hunters to hunt his property and portrayed an enlightened understanding of deer herd dynamics and management. He suggested that the harvest of some does is justified in certain circumstances and will continue to allow those hunters possessing doe permits access to his land.

### Big Game Competing With Livestock

Moose and elk do compete to some extent for the available forage on his land but not to the degree that he would like to see fewer big game animals on his land. He stated, ". . . sure I could run more cows if they (deer, elk, and moose) weren't there, but they have a right to be there, too, and I like seeing them."

### Goals for Big Game on his Land

His goals are to let the wildlife enterprise grow at its own rate and start spending time and money when the return makes it economically feasible. He has decided that the maximum number of trespass permits he will sell per year is two hundred. That includes deer, elk, and moose permits. With the sale of that many permits, the wildlife (or the right to hunt on his land) has a potential economic return of close to \$21,000, a figure large enough to warrant some attention. Rancher #1 could fill that quota and even increase his price if he would spend a minimal amount on advertisement.

## CASE STUDY

## RANCHER #2

Rancher #2 owns and operates four thousand five hundred acres. He runs a cow/calf enterprise which is located about tenmiles up the South Fork of Chalk Creek.

Lease History

Up until a few years ago, he sold his own trespass permits. The price charged for the permits increased from twenty-five cents the first year to twenty dollars for the last year permits were sold. In 1980, he decided to lease his land to Hunting Club #2. The reason for this change was not a matter of economics. In fact, he makes less money leasing than he did when he was selling his own trespass permits. The reason for the change was the trouble with trespassers just became too much of a headache. This is not suggesting that the problem is gone now, because it is not. Although this problem is not gone, it has decreased significantly or shifted to someone else.

The nonclosure of gates was one of the biggest problems the rancher claimed to have. He cited many instances of days having to be spend resorting cattle and sheep after gates had been left open by careless hunters. He also told of many times fences had been cut, livestock had been shot, and willful trespass had occurred. He decided he would have to do something, either stop all hunting on his land and have someone guard every gate on his place for the entire hunting season, or lease his property to one of the hunting clubs that had approached him. He decided to lease to a hunting club. The lease includes all 4,500 acres at about \$.25 cents per acre, or about \$1,300 per season.

Although the amount of money has decreased, he is much happier with this new arrangement. He stated that the hunting club does a good job of controlling the people on his land.

### Trespass Suggestions

According to this rancher, there is a need for much stricter laws regarding trespass or more Fish and Game personnel are needed to enforce existing laws. He thinks that if he caught just a few individuals and prosecuted them to the full extent of the law, the problem of trespass on his property would decrease significantly.

He claims that one of the reasons he gets more trespassers is that he is surrounded by landowners who sell their trespass permits but the quality of big game habitat on their land is such that hunter success is low. He cited instances of people selling permits, especially elk permits, where they had never had elk on their land. He claimed this made for irate hunters and was often a contributing factor when damage such as fence cutting and livestock shooting occurs.

### Oil Money

One thing that also lead to the lease to a hunting club was the advent of oil on his land. The well is producing now, and he stated that the royalties are "pretty good." With the discovery of this oil, he has opted for leasing to Hunting Club #2, even though the money is less than if he sold his own permits; but he suggested that in the long run he will have fewer problems.

### Herd Management Suggestions

Rancher #2's suggestions for herd management changes came in the form of requests to shorten the hunting seasons. He suggested that his

biggest problem is with the trespassers and with the seasons spread out like they are. It just compounds his problems and makes him have to deal with hunters for much longer than he thinks he should have to. One of his more prominent problems is with the muzzleloading season. He stated that most of the damage he receives occurs during this season. He suggests shorter hunting seasons.

#### Damage

Although Rancher #2 claims to be involved in the year-long production of wildlife, he does not think that he receives a significant amount of damage. He does think that he gets some spring damage on his alfalfa fields and has agreed to have some enclosed baskets put on affected fields to measure the extent, if any, of the loss occurring.

The only year this rancher received a significant amount of damage was during the bad winter of 1956. That year, like this year, the deep early snows confined the deer and elk to about 20 percent of traditional winter range. During that winter, deer started to get into his stackyards, and he lost some hay directly to the deer and some that the cows would not eat because of deer defecating and urinating on it. The Division of Wildlife Resources acted promptly, though, and the damage was kept to a minimum. Since that year, and even during this past extremely difficult year, he has not received any damage on his stackyards. His stackyards have been built to withstand the winter wildlife pressure expected.

## CASE STUDY

## RANCHER #3

Rancher #3, along with one brother, owns and operates a beef cattle enterprise and a dairy herd near Coalville, Utah. There are 6,300 acres involved in the operation. Most of the land lies east of Coalville on the Chalk Creek road.

Damage

He is one of the three or four landowners in Deer Herd Unit 19 who have filed and will receive compensation for damage caused them by deer this past winter.

He claims that he had 240 to 300 head of deer competing in the feeders with his dairy cows for almost three and one-half months. He stated that his total hay loss, which includes both hay that was directly eaten by the deer and hay that was "ruined," amounted to a little over thirty tons. He also suggested that because of the deer competing with and contaminating his hay, his milk production dropped 30 percent during those months. He did, however, fail to mention the extremely cold weather at that time and that other dairy farmers encountered similar reductions in milk production. At any rate, he claims the deer cost him another \$40 a day in lost milk production. Coupled with the substantiated hay loss, he claims to have received \$4,100 in damage this past year. The limit on the amount the Division of Wildlife Resources will pay per year to an individual is \$2,000. He received the full \$2,000.

Feeding Program

Rancher #3 refused to help in the feeding effort this past winter. He stated that he would have let someone else feed the deer on his property

but he would not.

The reason for his open dislike of the feeding program is that he thinks the deer and elk herds in the area are too large. He does, however, grant that the feeding program was a success when he thought it would fail.

#### Herd Management Suggestions

Because of his feelings that the herds in the area are too large, he lets as many doe hunters on his property as who desire to hunt there.

When asked why he did not sell trespass permits for the hunting of buck deer and receive some of the benefits from the wildlife on his property, he stated that he keeps his hunting just for family and a few close friends. He suggested that if a person is making money by selling trespass permits on his land, the Fish and Game Department would not consider damage claims by that person as closely. (Fish and Game personnel flatly denied this allegation.) Rancher #3 also stated that another reason he does not lease hunting rights is that he would receive far more revenue from the hunt than the amount he is receiving in damage, that having just a few people on his land and the quality of the hunting for him is worth the foregone revenue.

One of his other herd management suggestions was the moving of the elk hunt back about two weeks. He suggested that this would facilitate the sheep ranchers in getting their livestock off the mountain before the hunters get up there to scatter them all over. He said that the elk hunt is one of the largest obstacles that sheepmen face. Most of the problem is caused by the large number of hunters afield. When it was suggested that a latter season would probably mean a higher number of elk killed, he stated, "good, there are too damn many elk anyway."

## CASE STUDY

## RANCHER #4

The following information is from the Secretary-Treasurer of Ranch #4. The ranch is roughly 6,000 acres and is located up Chalk Creek road east of Coalville, Utah.

Damage

The damage Ranch #4 received from big game animals is minimal and something it does not mind absorbing.

The main problem with damage comes from trespassers. Instances were cited of trespassers cutting fences, leaving gates open, and, on rare occasions, shooting livestock.

A major contributor to the trespasser damage problem is the television people portraying the Chalk Creek area as some of the best hunting in the state and failing to mention to the public that the area is 98 percent private land. So the area gets numerous people from the Wasatch Front who arrive with high expectations of being able to hunt. Many of those people do not even take the time to find out which is private land or who it belongs to. They just go where they feel like going. The ones who do find out they cannot get access anywhere without belonging to a hunting club or buying a trespass permit are the ones who get angry and are usually responsible for trespasser damage.

Management Suggestions

In contrast to many other operations, this ranch does not lease to a hunting club or sell trespass permits. The hunting on the ranch is all done by family and friends.

One comment made was that the Division of Wildlife Resources was selling too many permits and that there were not that many deer and elk in the area. The implication was, however, that fewer hunters would mean fewer trespassers. It was stated that the Fish and Game Department must not have any respect at all for the landowners to sell that many permits in Unit 19.

## CASE STUDY

## RANCHER #5

Rancher #5 lives on his property that is located on the lower end of the traditional deer winter range. With the deer being confined to just 20 percent of that traditional winter range because of heavy snow cover this past winter, his property was in the heart of the major deer concentrations.

Damage

Rancher #5 neither leases his property for hunting nor does he hunt. He has tried in the past to lease his property to a hunting club but none of them are willing to take it. The parcel is only 160 acres and too low in elevation and close to the road to be of any value to a hunting club. He claims that there are a few deer on his property during the hunting season but not enough to warrant leasing by a hunting club.

He claims he gets hit every winter by deer in his haystacks; but up until this past winter he has been willing to absorb the damage costs. He suggested that he, just as most of the local ranchers, is willing to absorb a little damage and does not mind feeding a few deer through the worst part of winter; but when it starts to "hurt our pocketbooks," something has to be done about it.

Rancher #5 stated that he had between 200 and 250 deer in his hay for almost a month. He said he called the Fish and Game, but their slow response caused him to lose as much as he did. He was asked if he did anything to prevent the damage from occurring or if he had done anything to stop the damage once it had started. He stated, "no, I don't own the deer, and it is not my responsibility, it is the Fish and Game's responsibility to

provide the materials and labor to protect my hay." The total cost or damage done by deer he estimated to be at \$450.

#### Herd Size

When asked how large he would like to see the deer herd in the area, he said he did not care how large the herd was just as long as he was paid in full for any damage and/or financial hardship the deer caused him.

## CASE STUDY

## RANCHER #6

Rancher #6 is a Coalville, Utah resident. He owns 120 acres south of town, three quarters of which is meadow and one quarter alfalfa. He is an avid hunter and belongs to one of the local hunting clubs.

Damage

He claims to have lost a small stack of hay this past winter to deep deprecations. He said that a conservative estimate of the loss is 250 bales or almost eight tons. Grass, or meadow, hay was at the time selling for about \$60 per ton, which brings the amount of loss close to \$480.

When asked if he had filed a damage claim, he stated that it is too much hassle, and that the financial loss would not hurt him. He is not actually a rancher at all, he has a few horses and a milk cow. His livelihood comes from a prominent local business. Because of his local prominence and financial situation, he stated the loss of \$480 would not be detrimental to him. This may explain why he has not filed a damage claim. His desire to help the starving deer is another thing that helps explain his position. He said that he did not do anything to try and save his hay once he found the deer in it, and implied that he would have fed the deer even if they had not gotten into his hay on their own.

Herd Size

Rancher #6 stated that because he is an avid hunter, he would like to see as many deer and elk as could possibly be produced on the available land. He said that he does understand that these large herd sizes will mean more damage during hard winters, but he thinks there are more people that would rather see large herds than there are those concerned about

damage. He did state, however, that he does understand the financial hardship the deer cause some people and suggested the Fish and Game should pay the total amount of damage caused by big game animals and not have the current \$2,000 limit on damage claims. He also suggested that if a farmer or rancher is provided free materials to protect his hay that he should not be entitled to any damage payments.

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